

Simulation

Description Simulation provides experiences for students without the constraints of a real-life situation. With a simulation students can think through the scenarios and seek solutions to a hypothetical problem in order to experience what it might be like in the actual situation.

Example 1 *PatientSim System (for Health Sciences)*

A patient simulator is a fully computer-programmed robot, functioning as a real patient *who* reacts automatically to every single change (particularly the medicines injected into its body). This is widely used in health sciences education for students and trainees to carry out medical experiments (e.g., trying new drugs or therapy) which are not possible to do on real patients.

Example 2 *Merger Plan (for Business)*

The Merger Plan Simulation is a computerised business simulation in which players are exposed to a number of issues addressing the challenges and trade-offs typically found in post-acquisition integration planning contexts and other major change management situations, including the consensus building process with a plurality of internal and external stakeholders. It can be run with 6 to 60 players. All data are processed in real time mode so that the information is ever changing, depending upon the actions taken by the players.

(source: http://www.insead.edu/facultyresearch/teaching_tools/merger_plan_simulation.htm)

How Active? Simulation is a powerful way to engage students in practical tasks as they are highly motivated to try different alternatives to solve problems. Students take action mainly in accordance with the reactions of the objects and environmental factors in the simulation. For instance, students can try different drugs on the patient simulator to lower the blood pressure caused by unknown reasons. In Example 2, players need to identify the determinants of each stakeholder's opinion of the merger scheme, and use the available actions to find a trade-off between the maximisation of theoretical value generation and of stakeholder support.

How Related to Real Life? A simulation game mimics a complex real-life situation, where students hypothesise and modify their actions through trial and error. But still it is a simulation that does not entirely represent the complexity of the reality. The situation can be high-risk as in Example 1 or low-risk as in Example 2.

What Learning Outcomes? Simulation provides a development scenario where students interact with different factors in the simulation package and/ or other players. They engage themselves in specific tasks, make assumptions and evaluate alternative methods upon the direct instant feedback as a result of the actions taken in the process. These repeated steps of decision making and interaction with the factors in the simulated environment helps them construct deep thinking and knowledge so that they know how to solve real-world problems.